

CLAIMS

What is claimed is:

1. A plant comprising:

5 a liquefied natural gas storage vessel configured to receive liquefied natural gas and to provide a liquefied natural gas liquid and a liquefied natural gas vapor;

10 a fractionator that is fluidly coupled to the storage vessel and configured to receive a fractionator feed, wherein the fractionator produces (a) a stream of C₂ and lighter components and (b) a stream of C₃ and heavier components;

wherein refrigeration content of the liquefied natural gas liquid condenses the C₂ and lighter components; and

wherein the C₃ and heavier components absorb the liquefied natural gas vapor thereby forming the fractionator feed.

- 15 2. The plant of claim 1 wherein a portion of the liquefied natural gas vapor from the storage vessel is routed to a second liquefied natural gas storage vessel.

3. The plant of claim 1 further comprising a heat exchanger configured to cool the fractionator feed using the liquefied natural gas liquid as a refrigerant.

- 20 4. The plant further comprising a second heat exchanger configured to heat the fractionator feed using the stream of C₃ and heavier components from the fractionator as a heat source.

5. The plant of claim 1 wherein the fractionator is configured to provide the condensed C₂ and lighter components to the liquefied natural gas liquid.

- 25 6. The plant of claim 1 further comprising a second liquefied natural gas storage vessel that provides the liquefied natural gas and configured to provide a second liquefied natural gas vapor to the second liquefied natural gas storage vessel.

7. The plant of claim 6 wherein the second liquefied natural gas storage vessel is located on a ship.

8. The plant of claim 1 wherein the fractionator is configured to receive a portion of the liquefied natural gas liquid as fractionator feed after the liquefied natural gas liquid provided refrigeration for condensation of the C₂ and lighter components.
- 5 9. The plant of claim 8 wherein the fractionator is further configured to provide a liquefied petroleum gas as a bottom product.
10. The plant of claim 8 wherein the fractionator is configured to receive another portion of the liquefied natural gas liquid as condensation refrigerant after the liquefied natural gas liquid has provided refrigeration for condensation of the
10 C₂ and lighter components.
11. A method of handling liquefied natural gas vapor, comprising:
providing a liquefied natural gas storage vessel that provides liquefied natural gas liquid and a liquefied natural gas vapor;
combining the liquefied natural gas vapor with a stream of C₃ and heavier
15 components to thereby absorb the liquefied natural gas vapor and to thereby form a combined product;
separating in a fractionator the combined product into the stream of C₃ and heavier components and a stream of C₂ and lighter components; and
condensing the stream of C₂ and lighter components using refrigeration
20 content of the liquefied natural gas liquid.
12. The method of claim 11 further comprising a step of using the liquefied natural gas liquid as a refrigerant to cool the combined product before the combined product is fed to the fractionator.
13. The method of claim 11 further comprising a step of using the stream of C₃
25 and heavier components from the fractionator to heat the combined product before the combined product is fed to the fractionator.
14. The method of claim 11 further comprising a step of providing a second liquefied natural gas storage vessel that provides the liquefied natural gas to the liquefied natural gas storage vessel.

15. The method of claim 14 wherein the second liquefied natural gas storage vessel receives a portion of the liquefied natural gas vapor.
16. The method of claim 14 wherein the second liquefied natural gas storage vessel is configured to form a stream of liquefied natural gas vapor, and
5 wherein the stream of liquefied natural gas vapor is provided back to the second liquefied natural gas storage vessel.
17. The method of claim 14 wherein the second liquefied natural gas storage vessel is located on a ship.
18. The method of claim 11 further comprising a step feeding a portion of the
10 liquefied natural gas liquid to the fractionator after the liquefied natural gas liquid has provided refrigeration for condensation of the C₂ and lighter components.
19. The method of claim 18 wherein the fractionator is configured to provide a liquefied petroleum gas as a bottom product.
- 15 20. The method of claim 19 further comprising a step of using another portion of the liquefied natural gas liquid as condensation refrigerant after the liquefied natural gas liquid provided refrigeration for condensation of the C₂ and lighter components.